

In the Claims

1 -31. (Cancelled)

32. (New) A medical device, comprising:

a first shaft having a proximal end region, a distal end region, and a guidewire lumen;

a guidewire slidably disposed in the guidewire lumen;

a filter coupled to the guidewire;

a balloon coupled to the distal end region of the catheter shaft; and

a stent disposed adjacent the catheter shaft and positioned distally of the balloon.

33. (New) The medical device of claim 32, wherein the stent is self-expanding.

34. (New) The medical device of claim 32, further comprising a second catheter shaft slidably disposed within the first catheter shaft.

35. (New) The medical device of claim 34, wherein the guidewire is slidably disposed within a second guidewire lumen defined in the second catheter shaft.

36. (New) The medical device of claim 34, wherein the stent is disposed on the second catheter shaft.

37. (New) The medical device of claim 36, wherein the stent is configured to shift between a first generally collapsed configuration and a second generally expanded configuration, and wherein the stent is biased to be in the second configuration.

38. (New) The medical device of claim 37, wherein the stent is retained in the first configuration on the second catheter shaft by a retaining sleeve.

39. (New) The medical device of claim 37, wherein the stent is retained in the first configuration on the second catheter shaft by the first catheter shaft.

40. (New) The medical device of claim 32, wherein the first catheter shaft defines a perfusion lumen configured for perfusing fluid therethrough so as to flush embolic debris into the filter.

41. (New) A medical device, comprising:

an outer catheter shaft;

an inner catheter shaft slidably disposed in the outer catheter shaft;

an elongate guidewire slidably disposed in the inner catheter shaft;

a filter coupled to the guidewire;

a balloon coupled to the outer catheter shaft; and

a stent coupled to the inner catheter shaft.

42. (New) The medical device of claim 41, wherein the stent is self-expanding.

43. (New) The medical device of claim 41, wherein the stent is configured to shift between a first generally collapsed configuration and a second generally expanded configuration, and wherein the stent is biased to be in the second configuration.

44. (New) The medical device of claim 43, wherein the stent is retained in the first configuration on the second catheter shaft by a retaining sleeve.

45. (New) The medical device of claim 43, wherein the stent is retained in the first configuration on the inner catheter shaft by the outer catheter shaft.

46. (New) The medical device of claim 41, wherein at least one of the inner or outer catheter shafts define a perfusion lumen therein that is configured for perfusing fluid therethrough so as to flush embolic debris into the filter.

47. (New) A method for flushing embolic debris into a filter, comprising the steps of:  
providing a catheter system, the system including an outer catheter shaft, an inner catheter shaft slidably disposed in the outer catheter shaft, a distal flushing port, a balloon coupled to the outer catheter shaft, and a stent coupled to the inner catheter shaft;  
providing a guidewire having an expandable filter coupled thereto;  
inserting the guidewire into a blood vessel;  
advancing the guidewire to a position where the expandable filter is disposed distally beyond a region of interest;

expanding the filter;

advancing the catheter system over the guidewire to a position where the balloon is disposed proximally of the region of interest;

expanding the balloon;

flushing the embolic debris towards the expandable filter through the flushing port of the catheter system, whereby the filter collects the embolic debris; and

removing the filter containing the collected embolic debris material from the blood vessel.

48. (New) The method of claim 47, wherein the distal flushing port of the catheter system is defined by a distal end of the outer catheter shaft, and wherein the step of flushing the embolic debris towards the expandable filter through the flushing port of the catheter system includes flushing the embolic debris towards the expandable filter through the distal end of the outer catheter shaft.

49. (New) The method of claim 47, further comprising the step of deploying the stent.

50. (New) The method of claim 48, wherein the stent is held in an undeployed configuration by a sleeve disposed on at least a portion of the stent, and wherein the step of deploying the stent includes removing the sleeve from the stent.

51. (New) A method for flushing embolic debris into a filter, comprising the steps of:

providing a catheter system, the system including an outer catheter shaft, an inner catheter shaft slidably disposed in the outer catheter shaft, a port defined by a distal opening of the outer catheter shaft, a balloon coupled to the outer catheter shaft, and a stent coupled to the inner catheter;

providing a guidewire having an expandable filter coupled thereto;

advancing the guidewire through a blood vessel to a region of interest;

expanding the filter;

advancing the catheter system over the guidewire to a position proximal of the filter and the region of interest;

deploying the stent;

expanding the balloon;

flushing the embolic debris towards the expandable filter through the port, whereby the filter collects the embolic debris; and

removing the filter containing the collected embolic debris material from the blood vessel.

52. (New) The method of claim 51, wherein the stent is held in an undeployed configuration by a sleeve disposed on at least a portion of the stent, and wherein the step of deploying the stent includes removing the sleeve from the stent.